

1 19. (Amended) An apparatus according to claim 18, [characterized in that] wherein the
2 means [(105)] for attenuating the signal primarily outside [(270, 272)] the frequency range [(271)]
3 of the desired part [(240)] of the signal comprise a digital filter.

1 20. (Amended) An apparatus according to [any one of claims 14 to 19] claim 14 or 15,
2 [characterized in that it includes] wherein the apparatus further comprises means [(106; 107)] for
3 storing consecutive values of the noise estimation measure, [and] means [(106; 107)] for processing
4 the values to extract a trend, and means [(107)] for communicating at least one of the individual
5 values, [or] the extracted trend thereof, and [or] postprocessed versions thereof to a quality control
6 system.

1 21. (Amended) A mobile telephone[, characterized in that it contains] having an
2 apparatus, the apparatus comprising means [(106, 108)] for [performing the steps of claim 1]
3 estimating residual noise in a frequency range of a desired part of a signal, wherein the amplitude
4 of the signal comprising the noise is modified, and the signal is combined with the modified signal
5 to create a noise estimation measure, means for estimating residual noise in the frequency range
6 [(271)] of [a] the desired part [(240)] of [a] the signal [(114)], and means [(106, 107)] for storing,
7 evaluating and transmitting at least one of resulting noise estimation measurements [or] and
8 postprocessed versions thereof[(116, 117)] to a link quality control system of a cellular radio system.

1 22. (Amended) A mobile telephone according to claim 21[, characterized in that it is]
2 adapted to perform a noise estimation measurement during each of [the] a plurality of basic time
3 units [(i.e. time slot or burst)] of a channel of the digital cellular radio system.

REMARKS

It is respectfully submitted that the amendments made to the claims herein are neither being presented nor made in response to the citation of any prior art known to the Applicant or the Applicant's attorneys. These amendments are further not made for any reason related to any statutory requirements for patentability. They are made solely to more completely claim that to which

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the Applicant is entitled. Applicant's invention should only be considered to be limited by the claims as they now exist and the equivalents thereof. It is not Applicant's intent to narrow any claim element by the amendments made herein. It is submitted that no new matter has been added. A clean copy of all pending claims after the amendments made herein is attached to this Preliminary Amendment.

In view of the foregoing, Applicant respectfully requests the thorough and complete examination of this application and earnestly solicits an early notice of allowance.

Respectfully submitted,



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CLAIMS AS PENDING IN THIS APPLICATION

1. (Amended) A method for estimating residual noise in a frequency range of a desired part of a signal, wherein an amplitude of the signal comprising the noise is modified, and the signal is combined with the modified signal to create a noise estimation measure.

2. (Amended) A method according to claim 1, wherein the noise estimation measure is based on an average power content of the signal and the modified signal over their frequency spectra.

3. (Amended) A method according to claim 2, wherein the noise estimation measure is based on the average power content of the signal and the modified signal over one or more common ranges of their frequency spectra.

4. (Amended) A method according to any one of claims 1 to 3, wherein the signal is attenuated primarily outside a frequency range of the desired part of the signal.

5. (Amended) A method according to claim 2 or 3, wherein the noise estimation measure is based on a difference in average power content between the signal and the modified signal.

6. (Amended) A method according to any one of claims 1 to 3, wherein the signal is a digital signal.

7. (Amended) A method according to claim 4, wherein the signal is attenuated primarily outside the frequency range of the desired part of the signal via a digital filter.

8. (Amended) A method according to any one of claims 1 to 3, wherein the noise estimation measure is quantized in a number of different levels each indicating different levels of noise present.

9. (Amended) A method according to any one of claims 1 to 3, wherein the desired part of the signal represents a selected channel of a digital cellular radio system, and the noise estimation measure or a postprocessed version thereof is communicated to a link quality control system of said digital cellular radio system as an estimator of current link quality.

10. (Amended) A method according to claim 9, wherein a noise estimation measurement is performed during each of the basic time units of a channel of the digital cellular radio system, and the result is communicated to a link quality control system of the digital cellular radio system as an estimator of current link quality.

11. (Amended) A method according to claim 9, wherein several noise estimation measurements are performed, the results are stored, and the results are evaluated, and a derived trend is communicated to a link quality control system of a digital cellular radio system as an estimator of current link quality.

12. (Amended) A method according to claim 9, wherein the noise estimation measure transferred to the link quality control system is used by the digital cellular radio system to optimize user information channel throughput by adjusting at least one of the data transmission rate, the error correction depth, and a type of modulation.

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13. (Amended) A method according to claim 9, wherein the noise estimation measure is transferred to a digital demodulator and used to adjust a receiver algorithm.

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14. (Amended) An apparatus for estimating residual noise in a frequency range of a desired part of a signal, comprising means for modifying an amplitude of the signal comprising the noise, means for combining the signal with the modified signal to create a noise estimation measure, and means for transferring the measure to a processing unit .

15. (Amended) An apparatus according to claim 14, wherein the means modified for combining the signal with the signal to create a noise estimation measure comprise a power meter for measuring average power content of the signal and the modified signal over at least one of a plurality of common ranges of their frequency spectra.

16. (Amended) An apparatus according to claim 14 or 15, wherein the means for modifying the amplitude of the signal comprising the noise include means for attenuating the signal primarily outside the frequency range of the desired part of the signal.

17. (Amended) An apparatus according to claim 15, wherein the means for combining the signal with the modified signal to create a noise estimation measure comprise means for computing a difference in average power content between the signal and the modified signal.

18. (Amended) An apparatus according to claim 14 or 15, wherein the apparatus is adapted to handle digital signals.

19. (Amended) An apparatus according to claim 18, wherein the means for attenuating the signal primarily outside the frequency range of the desired part of the signal comprise a digital filter.

20. (Amended) An apparatus according to claim 14 or 15, wherein the apparatus further comprises means for storing consecutive values of the noise estimation measure, means for processing the values to extract a trend, and means for communicating at least one of the individual values, the extracted trend thereof, and postprocessed versions thereof to a quality control system.

21. (Amended) A mobile telephone having an apparatus, the apparatus comprising means for estimating residual noise in a frequency range of a desired part of a signal, wherein the amplitude of the signal comprising the noise is modified, and the signal is combined with the modified signal to create a noise estimation measure, means for estimating residual noise in the frequency range of the desired part of the signal, and means for storing, evaluating and transmitting at least one of

resulting noise estimation measurements and postprocessed versions thereof to a link quality control system of a cellular radio system.

22. (Amended) A mobile telephone according to claim 21 adapted to perform a noise estimation measurement during each of a plurality of basic time units of a channel of the digital cellular radio system.